

CLAIMS

1. A vector for the oral administration of at least one pharmacologically active substance, that allows said active substance to pass from the intestinal lumen to the blood, optionally via the interstitial fluid, without any substantial denaturation or degradation of said substance, the vector comprising a matrix that is essentially hydrophilic in nature, the outer surface of which is modified with one or more chemical species that give said vector an essentially lipophilic nature, and containing one or more active substances.
2. The vector as claimed in claim 1, characterized in that it is biocompatible and bioassimilable or metabolizable at a pH of between approximately 6.5 and 7.5, ideally between approximately 7.2 and 7.3.
3. The vector as claimed in claim 1 or claim 2, characterized in that the chemical species are detached from the matrix when the vector passes from the intestinal lumen to the blood, optionally via the interstitial fluid.
4. The vector as claimed in any one of the preceding claims, characterized in that the main constituent of the hydrophilic matrix is selected from polylactates, poly(lactate-co-glycolate)s, polymers or copolymers based on hyaluronic acid, on chitosan, on starch, on dextran and the like, and also copolymers thereof and mixtures thereof.
5. The vector as claimed in any one of the preceding claims, characterized in that the chemical species are selected from paraffins, lecithins, amino acids, fatty acids in general and also derivatives thereof (esters and the like, for example stearates, glycerides), benzyls, inositol phosphates (IPs), glycerol

phosphates, lipophilic polymers, and the like, and also mixtures thereof.

6. The vector as claimed in any one of the preceding 5 claims, characterized in that the chemical species are attached to the hydrophilic matrix via weak bonds.

7. The vector as claimed in claim 6, characterized in that the weak bonds are bonds of electrostatic and/or 10 ionic nature and/or of hydrogen bond type.

8. The vector as claimed in any one of the preceding claims, characterized in that its largest dimension is between approximately 10 nm and approximately 10 μm , 15 preferably between approximately 100 nm and approximately 500 nm, more preferably between approximately 200 nm and approximately 300 nm.

9. The vector as claimed in claim 8, characterized in 20 that it is in the form of spheres having a diameter of between approximately 10 nm and approximately 10 μm , preferably between approximately 100 nm and approximately 500 nm, for example between approximately 200 nm and approximately 300 nm.

25 10. The vector as claimed in any one of the preceding claims, characterized in that it comprises a matrix in the form of a gel containing said active substance(s) or else a mixture of active substances.

30 11. The vector as claimed in any one of claims 1 to 10, characterized in that it comprises a matrix in the form of a capsule containing said active substance(s) or else a mixture of active substances.

35 12. The vector as claimed in any one of the preceding claims, characterized in that it has gastric protection.

13. The vector as claimed in claim 12, for which the gastric protection is solid in nature, in the form of a gel, or is in the form of a coating or of a capsule.

5 14. The vector as claimed in claim 13, for which the gastric protection is in the form of a capsule.

10 15. The vector as claimed in any one of claims 12 to 14, characterized in that the gastric protection comprises constituents selected from alginates, such as calcium alginate, carboxymethylcellulose and the like, and also mixtures thereof.

15 16. The vector as claimed in any one of the preceding claims, characterized in that it has gastric protection containing said vector in a lipophilic compound.

20 17. The vector as claimed in claim 16, characterized in that the lipophilic compound is selected from organic or mineral, plant or animal oils, and mixtures thereof.

25 18. The vector as claimed in any one of the preceding claims, consisting of a plurality of hydrophilic capsules modified with chemical species that give them a lipophilic nature, said capsules being dispersed in a lipophilic medium that is itself contained in a capsule that acts as gastric protection.

30 19. The vector as claimed in any one of the preceding claims, characterized in that the active substance is selected from substances capable of being denatured or degraded upon direct oral administration.

35 20. The vector as claimed in any one of the preceding claims, characterized in that the active substance is peptide or protein in nature.

21. The vector as claimed in any one of the preceding

claims, characterized in that the active substance is insulin.

22. A gastroresistant carrier comprising one or more
5 vectors as claimed in any one of the preceding claims.

23. A pharmaceutical composition comprising at least
one vector as defined in any one of claims 1 to 21 or a
gastroresistant carrier as claimed in claim 22.

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24. The use of a vector as claimed in any one of
claims 1 to 21 or of a gastroresistant carrier as
claimed in claim 22, with a view to obtaining a
medicament that is active when administered orally in
15 human or veterinary therapy and that has curative
and/or preventive properties and/or properties that
allow diagnosis.

25. The use as claimed in claim 24, for producing a
20 pharmaceutical product intended for the treatment of
Type 1 diabetes.

26. The use as claimed in claim 24, for producing a
pharmaceutical product intended for oral immunization.